



Graphing Calculator Investigation

A Follow-Up of Lesson 7-1

TI-82

Systems of Equations

You can use a TI-82 graphing calculator to solve a system of equations.

Example

Solve the system of equations. State the decimal solution to the nearest hundredth.

$$2.93x + y = 6.08$$

$$8.32x - y = 4.11$$

Step 1 Solve each equation for y to enter them into the calculator.

$$2.93x + y = 6.08$$

First equation

$$2.93x + y - 2.93x = 6.08 - 2.93x$$

Subtract $2.93x$ from each side.

$$y = 6.08 - 2.93x$$

Simplify.

$$8.32x - y = 4.11$$

Second equation

$$8.32x - y - 8.32x = 4.11 - 8.32x$$

Subtract $8.32x$ from each side.

$$-y = 4.11 - 8.32x$$

Simplify.

$$(-1)(-y) = (-1)(4.11 - 8.32x)$$

Multiply each side by -1 .

$$y = -4.11 + 8.32x$$

Simplify.

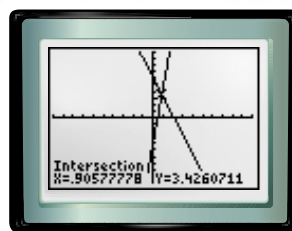
Step 2 Enter these equations in the Y= list and graph.

KEYSTROKES: Review on pages 224–225.

Step 3 Use the CALC menu to find the point of intersection.

KEYSTROKES: $\boxed{2nd}$ $\boxed{[CALC]}$ $\boxed{5}$ \boxed{ENTER} \boxed{ENTER} \boxed{ENTER}

The solution is approximately $(0.91, 3.43)$.



$[10, 10]$ scl: 1 by $[-10, 10]$ scl: 1

Exercises

Use a graphing calculator to solve each system of equations. Write decimal solutions to the nearest hundredth.

1. $y = 3x - 4$

$$y = -0.5x + 6 \quad (2.86, 4.57)$$

2. $y = 2x + 5$

$$y = -0.2x - 4 \quad (-4.09, -3.18)$$

3. $x + y = 5.35$

$$3x - y = 3.75 \quad (2.28, 3.08)$$

4. $0.35x - y = 1.12$

$$2.25x + y = -4.05 \quad (-1.13, -1.51)$$

5. $1.5x + y = 6.7$

$$5.2x - y = 4.1 \quad (1.61, 4.28)$$

6. $5.4x - y = 1.8$

$$6.2x + y = -3.8 \quad (-0.17, -2.73)$$

7. $5x - 4y = 26$

$$4x + 2y = 53.3 \quad (10.2, 6.25)$$

8. $2x + 3y = 11$

$$4x + y = -6 \quad (-2.9, 5.6)$$

9. $0.22x + 0.15y = 0.30$

$$-0.33x + y = 6.22 \quad (-2.35, 5.44)$$

10. $125x - 200y = 800$

$$65x - 20y = 140 \quad (1.14, -3.29)$$



www.algebra1.com/other_calculator_keystrokes